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| APPLICATION NO.  | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
|--|-------------|----------------------|---------------------|------------------|
| 10/525,779   | 09/30/2005  | Peter Berenbrink     | 2002P14078WOUS      | 8492             |
| 7590 07/07/2009  |             |                      |                     |                  |
| Siemens Corporation<br>Intellectual Property Department<br>170 Wood Avenue South<br>Iselin, NJ 08830 |             |                      |                     |                  |
| EXAMINER   |             |                      |                     |                  |
| PRICE, CARL D  |             |                      |                     |                  |
| ART UNIT   |             | PAPER NUMBER         |                     |                  |
| 3749   |             |                      |                     |                  |
| MAIL DATE  |             | DELIVERY MODE        |                     |                  |
| 07/07/2009   |             | PAPER                |                     |                  |

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

**Office Action Summary****Application No.**

10/525,779

**Applicant(s)**

BERENBRINK ET AL.

**Examiner**

Carl D. Price

**Art Unit**

3749

**-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --**  
**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 14 April 2009.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 20-22, 24-27, 29-32 and 36-39 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 20-22, 24-27, 29-32 and 36-39 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some \* c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO/SB08)  
Paper No(s)/Mail Date \_\_\_\_\_
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date \_\_\_\_\_
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: \_\_\_\_\_

## DETAILED ACTION

### Response to Arguments

Applicant's arguments with respect to claims 20-22, 24-27, 29-32 and 36-39 have been considered but are moot in view of the new ground(s) of rejection.

Applicant has amended the claims to be of a scope not previously considered. Applicant's remarks filed on 04/14/2009 include at least the following:

#### **Claim 36 (Presently Amended)**

A burner, comprising:

a means for providing a flow of compressed air and/or oxygen in a flow direction in a channel; and  
a redirecting surface in the channel for imparting a swirl to the flow about the flow direction,  
wherein the burner has a burner longitudinal axis, the burner has a radial direction disposed perpendicularly to the burner longitudinal axis, the channel is embodied annularly around the burner longitudinal axis, and the flow has an outflow angle at a redirecting surface downstream end between the flow direction and an axis perpendicular to the burner longitudinal axis, and the outflow angle varies along the radial direction in order to avoid combustion instabilities during operation of the burner.

In response to the prior art of record cited in the previous examiner's action and in support of the scope of the invention now presented in the amended claims, applicant argues the following:

"In amended claim 36, Applicant claims "a means for providing a flow of compressed air and/or oxygen in a flow direction in a channel...wherein...the channel is embodied annularly around the burner longitudinal axis." In contrast, Irish teaches a four sided plate with installed in a recessed, four sided chamber, which is on the upstream side of the plate only. Without a channel embodied annularly around the burner longitudinal axis, Irish cannot teach this aspect of Applicant's claim 36. Applicant respectfully requests the 35 USC 102 rejection of claim 36, and claims 37-39, which depend from and include all the limitations of claim 26, based on Irish, be withdrawn."

In response to applicant's argument(s) directed to the prior art previously relied on, and in response to the scope of the invention now set forth in the presently amended claims, the following examiner's action now relies on the prior art reference of **EP 0 902 237** (of record) Most notably, with regard to the now claimed invention, **EP 0 902 237** shows and discloses and outflow angle varies (between 25 and 45 degrees) along the radial direction. See figures 1(a) - 1(c).

Accordingly, while applicant's arguments have been carefully considered, applicant's claims do not patentably distinguish applicant's invention over the prior art of record.

See the examiner's action herein below.

**Claim Rejections - 35 USC § 102**

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

**Claims 36-39** are rejected under 35 U.S.C. 102(b) as being anticipated by **EP 0 902 237**.

**EP 0 902 237** shows (figure 8) and discloses a burner, comprising:

a means (see arrow(s) "A" and "Air") for providing a flow of compressed air and/or oxygen in a flow direction in a channel (see for example 206); and

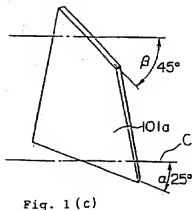
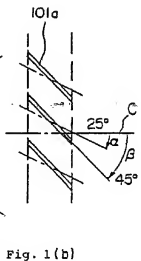
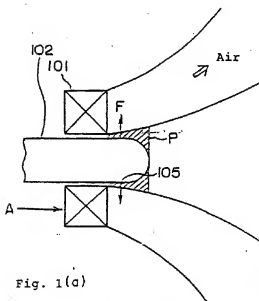
a redirecting surface (101) in the channel for imparting a swirl to the flow about the flow direction,

wherein the burner has a burner longitudinal axis ("C"), the burner has a radial direction (see for example "F") disposed perpendicularly to the burner longitudinal axis, the channel is embodied annularly around the burner longitudinal axis, and the flow has an outflow angle (101a; see figure 1(c) ) at a redirecting surface downstream end between the flow direction and an axis perpendicular to the burner longitudinal axis, and the outflow angle varies (between 25 and 45 degrees) along the radial direction.

Since this "twisted" (see paragraph [0028]) vane structure meets that set forth in applicants claims the varying outflow angle of EP 0 902 237 will necessarily and inherently result in avoiding combustion instabilities during operation of the burner.

In regard to claim 36 and 39, the outflow angle (101a) of EP 0 902 237 decreases in the radial direction from an interior ("tip side") to an exterior portion ("hub side") of the burner located a distance away radially from the interior area.

In regard to claim 38, since the inner and outer edges (not referenced) of the swirl vane (101a; blade or disk) of EP 0 902 237 are inclined relative to the burner axial direction, and are positioned in an annular passage about the burner axis, they are necessarily "wound" about the axis.



**Allowable Subject Matter**

**Claims 20-22, 24-27 and 29-32** are allowed.

**Conclusion**

**THIS ACTION IS MADE FINAL.** See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the date of this final action.

**USPTO CUSTOMER CONTACT INFORMATION**

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Carl D. Price whose telephone number is (571) 272-4880. The examiner can normally be reached on Monday through Friday between 9:00am-5:30pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Steven B. McAllister can be reached on (571) 272-6785. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Carl D. Price/

Primary Examiner, Art Unit 3749

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